

**What is claimed is:**

- 1        1. A structured image data processing method that processes data including (i)  
2        structured image data composed of document-image data and corresponding  
3        positioning data, and (ii) region data indicating a structure of the document-image  
4        data, the processing method comprising the steps of:  
  - 5            a) determining a region to be divided of the document-image data according  
6            to predetermined dividing information;
  - 7            b) dividing the document-image data into plural portions according to the  
8            region to be divided;
  - 9            c) processing individually the portions of the document-image data; and
  - 10           d) renewing the structured image data by replacing the positioning data and  
11           the document-image data before processing with positioning data and document-  
12           image data after processing.
- 1        2. The structured image data processing method of claim 1, wherein the  
2        dividing information includes data that affect a difference between the document-  
3        image data after a color-reducing process and the document-image data before the  
4        color-reducing process so that the difference is smaller than a predetermined value.
- 1        3. The structured image data processing method of claim 1, wherein the  
2        dividing information includes score data added to at least one of the positioning  
3        data and the region data.
- 1        4. The structured image data processing method of claim 1, wherein the  
2        dividing information includes (i) score data, (ii) a transmit capacity of a  
3        transmitting path for transmitting the structured image data, and (iii) an user's  
4        request, which are added to at least one of the positioning data and the region data
- 1        5. A structured image data processing method that processes data including (i)  
2        structured image data composed of document-image data and corresponding  
3        positioning data, (ii) region data indicating a structure of the document-image data,  
4        and (iii) replaced media dividing information added to the region data, the  
5        processing method comprising the steps of:  
  - 6            a) determining a region to be divided of the document-image data according  
7            to the region to be divided;

8           b) dividing the document-image data into plural portions according to the  
9 replaced media dividing information;

10           c) replacing the document-image data divided according to the replaced  
11 media dividing information that is added to the region data corresponding to the  
12 divided document image; and

13           d) renewing the structured image data by replacing the positioning data, the  
14 document-image data, and the replaced media dividing information.

1           6. The structured image data processing method of claim 5, wherein the  
2 replaced media dividing information is formed by text data added to a region.

1           7. A structured image data processing method that processes data including  
2 first input data composed of (i) first structured image data containing first  
3 document-image data and corresponding positioning data, and (ii) first region data  
4 indicating a structure of the first document-image data by regions; and second  
5 input data composed of (i) second structured image data containing second  
6 document-image data and corresponding positioning data, and (ii) second region  
7 data indicating a structure of the second document-image data by regions, the  
8 processing method comprising the steps of:

9           a) determining a region to be divided of the first input data as a region to be  
10 renewed, referring to the second input data;

11           b) dividing the first document-image data into plural portions according to  
12 the region to be divided;

13           c) renewing the divided structured image data of the first input data; and

14           d) combining the renewed first structured image data with the second  
15 structured image data.

1           8. A structured image data processing method that processes data including  
2 first input data composed of (i) first structured image data containing first  
3 document-image data and first positioning data, (ii) first region data indicating a  
4 structure of the first document-image data by regions, and (iii) first score data  
5 added to at least one of the first positioning data and the first region data; and  
6 second input data composed of (i) second structured image data containing second  
7 document-image data and second positioning data, (ii) second region data

11           a) determining a region to be divided of the first input data as a region to be  
12 renewed, referring to the second input data;

15 c) renewing the divided structured image data of the first input data; and

1        9. An apparatus for a structured image data processing that processes data

5           a) divided region determining means for determining a region to be divided  
6   of the document-image data according to predetermined dividing information;

9           c) image processing means for processing individually the divided portions  
10 of the document-image data; and

1        10. The apparatus for the structured image data processing of claim 9, wherein  
2        the dividing information includes data that affect a difference between the  
3        document-image data after a color-reducing process and the document-image data  
4        before the color-reducing process so that the difference is smaller than a  
5        predetermined value.

1        11. The apparatus for the structured image data processing of claim 9, wherein  
2        dividing information includes score data added to at least one of the positioning

1        12. The apparatus for the structured image data processing of claim 9, wherein  
2        the dividing information includes (i) score data, (ii) a transmit capacity of a  
3        transmitting path for transmitting the structured image data, and (iii) an user's  
4        request, which are added to at least one of the positioning data and the region data.

6           a) divided region determining means for determining a region to be divided  
7 of the document-image data according to the replaced media dividing information;

10 c) replacing means for replacing the divided document-image data with the  
11 replaced media dividing information that is added to the region data corresponding  
12 to the divided document image; and

1        14. The apparatus for the structured image data processing of claim 13,  
2        wherein the replaced media dividing information is formed by text data added to a  
3        region.

1        15. An apparatus for a structured image data processing that processes data  
2 including first input data composed of (i) first structured image data containing  
3 first document-image data and corresponding positioning data, and (ii) first region  
4 data indicating a structure of the first document-image data by regions; and second  
5 input data composed of (i) second structured image data containing second  
6 document-image data and corresponding positioning data, and (ii) second region  
7 data indicating a structure of the second document-image data by regions, the  
8 apparatus comprising:

9 a) divided region determining means for determining a region to be divided  
10 of the first input data as a region to be renewed, referring to the second input data;

11 b) image-dividing means for dividing the first document-image data into  
12 plural portions according to the region to be divided;

13 c) structured image data renewal means for renewing the divided structured  
14 image data of the first input data; and

15 d) structured image data composition means for combining the renewed first  
16 structured image data with the second structured image data.

1 16. An apparatus for a structured image data processing that processes data  
2 including first input data composed of (i) first structured image data containing  
3 first document-image data and first positioning data, (ii) first region data indicating  
4 a structure of the first document-image data by regions, and (iii) first score data  
5 added to at least one of the first positioning data and the first region data; and  
6 second input data composed of (i) second structured image data containing second  
7 document-image data and second positioning data, (ii) second region data  
8 indicating a structure of the second document-image data by regions, and (iii)  
9 second score data added to at least one of the second positioning data and the  
10 second region data, the apparatus comprising:

11 a) score-attached divided region determining means for determining a score-  
12 attached region to be divided of the first input data as a region to be renewed,  
13 referring to the second input data;

14 b) image-dividing means for dividing the first document-image data into  
15 plural portions according to the region to be divided;

16 c) structured image data renewal means for renewing the divided structured  
17 image data of the first input data; and

18 d) score-attached structured image data composition means for combining  
19 the renewed first structured image data with the second structured image data,  
20 using the first and the second score data.

1 17. A computer program product for a structured image data processing that  
2 processes data including (i) structured image data composed of document-image  
3 data and corresponding positioning data, and (ii) region data indicating an inner

4 structure of the document-image data, the program product comprising:

5 a) a program code for determining a region to be divided of the document-  
6 image data according to predetermined dividing information;

7 b) a program code for dividing the document-image data into plural portions  
8 according to the region to be divided;

9 c) a program code for processing individually the portions of the document-  
10 image data; and

11 d) a program code for renewing the structured image data by replacing the  
12 positioning data and the document-image data before processing with positioning  
13 data and document-image data after processing.

1 18. The computer program product for the structured image data processing of  
2 claim 17, wherein the dividing information includes data that affect a difference  
3 between the document-image data after a color-reducing process and the  
4 document-image data before the color-reducing process so that the difference is  
5 smaller than a predetermined value.

1 19. The computer program product for the structured image data processing of  
2 claim 17, wherein the dividing information includes score data added to at least  
3 one of the positioning data and the region data.

1 20. The computer program product for the structured image data processing of  
2 claim 17, wherein the dividing information includes (i) score data, (ii) a transmit  
3 capacity of a transmitting path for transmitting the structured image data, and (iii)  
4 an user's request, which are added to at least one of the positioning data and the  
5 region data.

1 21. A computer program product for a structured image data processing that  
2 processes data including (i) structured image data composed of document-image  
3 data and corresponding positioning data, (ii) region data indicating an inner  
4 structure of the document-image data, and (iii) replaced media dividing  
5 information added to the region data, the program product comprising:

6 a) a program code for determining a region to be divided of the document-  
7 image data according to the replaced media dividing information;

8 b) a program code for dividing the document-image data into plural portions

9 according to the region to be divided;

10 c) a program code for replacing the divided document-image data with the  
11 replaced media dividing information added to the region data corresponding to the  
12 divided document image; and

13 d) a program code for renewing the structured image data by replacing the  
14 positioning data, the document-image data, and the replaced media dividing  
15 information.

1 22. The computer program product for the structured image data processing of  
2 claim 21, wherein the replaced media dividing information is formed by text data  
3 added to a region.

1 23. A computer program product for a structured image data processing that  
2 processes data including first input data composed of (i) first structured image data  
3 containing first document-image data and corresponding positioning data, and (ii)  
4 first region data indicating a structure of the first document-image data by regions;  
5 and second input data composed of (i) second structured image data containing  
6 second document-image data and corresponding positioning data, and (ii) second  
7 region data indicating a structure of the second document-image data by regions,  
8 the program product comprising:

9 a) a program code for determining a region to be divided of the first input  
10 data as a region to be renewed, referring to the second input data;

11 b) a program code for dividing the first document-image data into plural  
12 portions according to the region to be divided;

13 c) a program code for renewing the divided structured image data of the first  
14 input data; and

15 d) a program code for combining the renewed first structured image data  
16 with the second structured image data.

1 24. A computer program product for a structured image data processing that  
2 processes data including first input data composed of (i) first structured image data  
3 containing first document-image data and first positioning data, (ii) first region  
4 data indicating a data structure of the first document-image data by regions, and  
5 (iii) first score data added to at least one of the first positioning data and the first

17       d) a program code for combining the renewed first structured image data  
18       with the second structured image data, using the first and the second score data.